

IN THE CLAIMS:

1. (Currently Amended) A method ~~for estimating a delay of a signal received at a mobile station (MS) from a specific network element (BS₁,BS₂) of a network for determining the location of said mobile station (MS), said method comprising~~ comprising:

estimating said delay a delay of a signal received at a mobile station from a specific network element of a network, within a search window, window; and

determining a size of said ~~which~~ search window is determined based on location information available for said specific network element (BS₁,BS₂) and based on a known distance of said mobile station (MS) to at least one other network element (BS₀,BS₁), and ~~which~~

wherein said determination of the size of said search window increases an acquisition probability for said signal.

2. (Currently Amended) A method according to claim 1,

wherein said at least one other network element comprises a serving network element (BS₀) serving a server cell (20) in which said mobile station (MS) is currently located, and

wherein the maximum distance of a ~~boarder~~ border of said server cell (20) to said serving network element (BS₀) defines the known distance of said mobile station (MS) to said serving network element (BS₀).

3. (Currently Amended) A method according to claim 1,

wherein said at least one other network element comprises a serving network element (BS₀) serving a server cell in which said mobile station (MS) is currently located, and

wherein said known distance is a distance (D₀) of said mobile station (MS) to said serving network element (BS₀) which was determined based on delay measurements on signals from said serving network element (BS₀).

4. (Currently Amended) A method according to claim 1,
wherein said at least one other network element comprises at least two network elements (BS_0, BS_1) , to which a respective distance was already determined based on delay measurements on signals from said at least two network elements (BS_0, BS_1) .
5. (Currently Amended) A method ~~for estimating a delay of a signal received at a mobile station (MS) from a specific network element (BS_1, BS_2) of a network for determining the location of said mobile station (MS)~~, said method comprising comprising:
estimating a delay of a signal received at a mobile station (MS) from a specific network element (BS_1, BS_2) of a network said delay within a search window, window; and
determining said which search window is determined based on location information available for said specific network element (BS_1, BS_2) and based on a known distance of said mobile station (MS) to at least one other network element (BS_0, BS_1) ,
wherein said at least one other network element comprises at least two network elements (BS_0, BS_1) , to which a respective distance was already determined based on delay measurements on signals from said at least two network elements (BS_0, BS_1) , and
wherein said search window is selected such that it covers intersection points of all circles around said at least two network elements (BS_0, BS_1) with a radius of the respectively determined distance.
6. (Original) A method according to claim 5, wherein said search window is subdivided into at least two sub-windows, each covering a respective intersection point.
7. (Currently Amended) A method according to claim 1, wherein a respective search window is determined for at least two specific network elements (BS_1, BS_2) in the order of their

distance to said mobile station (~~MS~~), beginning with the network element (~~BS₁~~) which is the closest to said mobile station (~~MS~~).

8. (Original) A method according to claim 1, wherein a search window is determined for at least two specific network elements in the order of the signal strength at said mobile station of signals transmitted by said network elements, beginning with the network element providing the strongest signal.

9. (Currently Amended) A method according to claim 1, wherein the covering range of said specific network element (~~BS₁,BS₂~~) is take into account in addition for limiting said search window.

10. (Original) A method according to claim 1, further comprising determining a threshold value based on the size of a determined search window, which threshold value defines the minimum signal strength of signals received at said mobile station for which a delay is estimated.

11. (Currently Amended) A mobile station (~~MS~~) ~~comprising~~ comprising:
means for receiving signals from a plurality of network elements (~~BS₀,BS₁,BS₂~~) of a network for determining the location of said mobile station; ~~station (MS)~~,
means for determining a size of a search window according to the method of claim 1; ~~and claim 1~~, and
means for determining a delay of received signals using a respectively determined search window having said size, wherein said size increases an acquisition probability for said signals.

12. (Currently Amended) A ~~mobile station (MS)~~ ~~comprising~~ Apparatus comprising:

means for receiving signals from a plurality of network elements ~~(BS₀,BS₁,BS₂)~~ of a network for determining the location of said mobile station (MS) and for receiving an indication of a size of a separate search window for each of said network elements; elements ~~(BS₀,BS₁,BS₂),~~ and

means for determining a delay of the received signals for each of said network elements using a respective search window having said indicated size, which the
wherein the indication of the size of said search window increases an acquisition
probability for said received signals.

13. (Currently Amended) A network element ~~(BS₀)~~ for a network ~~comprising~~ , comprising:
means for transmitting signals for determining the location of a mobile station (MS) to said mobile station ~~(MS)~~, means station;

means for determining a size of a search window for at least one further network element ~~(BS₁,BS₂)~~ of said network according to the method of ~~claim 1~~, claim 1; and

means for transmitting information on the size of said determined search window to said mobile station ~~(MS)~~ , wherein the size of said information increases an acquisition probability for said signals.

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15. (Currently Amended) A communication system comprising:

[[-]] at least two network elements ~~(BS₀,BS₁)~~ for transmitting signals for determining the location of a mobile station (MS);

[[-]] at least one mobile station ~~(MS)~~ with having means for determining a delay of received signals based on a size of a search window; and

[[-]] means for determining the size of the [[a]] search window according to the method of claim 1.

16. (Currently Amended) A communication system according to claim 15, wherein said means for determining a search window are comprised in at least one of said at least two network elements (~~BS₀, BS₁~~).

17. (Currently Amended) A communication system according to claim 15, wherein said means for determining a search window are comprised in said at least one mobile station (~~MS~~).

18. (New) The apparatus of claim 12, wherein said search window is subdivided into at least two sub-windows, each covering a respective intersection point.

19. (New) Apparatus comprising:

a receiver configured to receive signals from a plurality of network elements of a network for determining the location of said mobile station and for receiving an indication of a size of a separate search window for each of said network elements; and

a processor configured to determine a delay of the received signals for each of said network elements using a respective search window having said indicated size,

wherein the indication of the size of said search window increases an acquisition probability for said received signals.

20. (New) The apparatus of claim 19, wherein said search window is subdivided into at least two sub-windows, each covering a respective intersection point.